

Application/Control Number: 10/001,493

Page 2

Art Unit: 1700

CLMPTO

W.M.

12/08/04

Art Unit: 1700

1. (currently amended) A mechanism comprising:
a sealed quantity of electrolytic solution;
a measured quantity of fluid; and,
a membrane exposed to the electrolytic solution on one side and exposed to the fluid on another side, the membrane adapted to cause a droplet of the fluid to be discharged in response to
— wherein an electric potential applied to the electrolytic solution and that excites the
electrolytic solution; causing the membrane to discharge a droplet of the fluid.
2. (original) The mechanism of claim 1, further comprising a die encasing the electrolytic solution.
3. (currently amended) The mechanism of claim 2, further comprising a separated pair of electrodes encased with the electrolytic solution by the die, the electrodes adapted to apply the
wherein an electric potential applied between the electrodes causes the electric potential to be
applied to the electrolytic solution and such that the electrolytic solution to be becomes excited.
4. (original) The mechanism of claim 3, further comprising a power source to apply the electric potential between the electrodes.
5. (original) The mechanism of claim 2, wherein the die comprises a silicon die.
6. (original) The mechanism of claim 1, further comprising a nozzle plate over the membrane and holding the measured quantity of fluid.

Art Unit: 1700

7. (original) The mechanism of claim 6, further comprising a fluid supply providing the measured quantity of fluid through an inlet in the nozzle plate.

8. (original) The mechanism of claim 6, wherein the nozzle plate is an injection-molded nozzle plate.

9. (original) The mechanism of claim 1, wherein the membrane is a thin and flexible membrane.

10. (original) The mechanism of claim 1, wherein the electric potential applied to the electrolytic solution pressurizes the electrolytic solution, displacing the membrane, which displaces the fluid, discharging the droplet of the fluid.

11. (original) The mechanism of claim 1, wherein the electric potential applied to the electrolytic solution transfers energy from the electrolytic solution to the membrane, which transfers the energy to the fluid, discharging the droplet of the fluid.

12. (original) The mechanism of claim 11, wherein the energy is transferred from the electrolytic solution to the membrane and from the membrane to the fluid via a shock wave.

13 - 20 (cancelled)

Art Unit: 1700

21. (new) A mechanism comprising:
_____ a sealed quantity of electrolytic solution;
_____ a quantity of fluid;
_____ a membrane exposed to the electrolytic solution on one side and exposed to the fluid on
another side; and,
_____ means for exciting the electrolytic solution, resulting in the membrane causing a droplet of
the fluid to be discharged.

22. (new) The mechanism of claim 21, wherein the means excites the electrolytic solution by
applying an electric potential to the electrolytic solution.

23. (new) The mechanism of claim 22, wherein the electric potential applied to the
electrolytic solution pressurizes the electrolytic solution, displacing the membrane, which
displaces the fluid, discharging the droplet of the fluid.

24. (new) The mechanism of claim 22, wherein the electric potential applied to the
electrolytic solution transfers energy from the electrolytic solution to the membrane, which
transfers the energy to the fluid, discharging the droplet of the fluid.

25. (new) The mechanism of claim 24, wherein the energy is transferred from the electrolytic
solution to the membrane and from the membrane to the fluid via a shock wave.

26. (new) A mechanism comprising:
_____ a sealed quantity of electrolytic solution;
_____ a quantity of fluid;
_____ a flexible material comprising a first side in contact with the electrolytic solution and a

Art Unit: 1700

second side in contact with the fluid; and,

a mechanism to apply an electric potential to the electrolytic solution that excites the electrolytic solution, resulting in the membrane causing a droplet of the fluid to be discharged.

27. (new) The mechanism of claim 26, wherein the mechanism comprises a separated pair of electrodes encased within the electrolytic solution, the electrodes adapted to apply the electric potential to the electrolytic solution such that the electrolytic solution becomes excited.

28. (new) The mechanism of claim 26, wherein the electric potential applied to the electrolytic solution pressurizes the electrolytic solution, displacing the membrane, which displaces the fluid, discharging the droplet of the fluid.

29. (new) The mechanism of claim 26, wherein the electric potential applied to the electrolytic solution transfers energy from the electrolytic solution to the membrane, which transfers the energy to the fluid, discharging the droplet of the fluid.

30. (new) The mechanism of claim 29, wherein the energy is transferred from the electrolytic solution to the membrane and from the membrane to the fluid via a shock wave.

31. (new) The mechanism of claim 26, further comprising a die encasing the electrolytic solution.

32. (new) The mechanism of claim 31, wherein the die comprises a silicon die.